

# CURRICULUM VITAE

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## CAREER OBJECTIVE

To carry out research in the interesting field of Astronomy & Astrophysics and pursue a career in an esteemed institute which will motivate me in achieving the highest individual and professional growth in a manner to prove myself as an asset to the scientific community. I am aiming to be a key player in this challenging and creative environment.

## CAREER PROFILE

*May 2022:* Working as an **Associate Professor** (Stage IV, Level 13A) at School of Studies (SoS) in Physics and Astrophysics, Pt. Ravishankar Shukla University, Raipur.

*May, 2019 - May 2022:* Worked as a Senior Assistant Professor (Stage-III, Level 12) at SoS in Physics and Astrophysics, Pt. Ravishankar Shukla University, Raipur.

*May, 2014 - May 2019:* Worked as a Senior Assistant Professor (Stage-II, Level 11) at SoS in Physics and Astrophysics, Pt. Ravishankar Shukla University, Raipur.

*May, 2008 - May 2014:* Worked as an Assistant Professor (Stage-I, Level 10) at SoS in Physics and Astrophysics, Pt. R. S. University, Raipur.

*Aug, 2006 - May, 2008:* Worked as a Junior Research Fellow at Space Astronomy and Instrumentation Division (SAID), ISRO Satellite Centre (ISAC), Bengaluru.

*Feb, 2005 - July, 2006:* Worked as a Research Trainee at Center for Research and Education in Science and Technology (CREST), Indian Institute of Astrophysics (IIA), Bengaluru.

## ACADEMIC PROFILE

- ◆ PhD Physics (2016) from Pt. R.S. University Raipur, C.G.
- ◆ MSc Physics (2004) from Pt. R.S. University Raipur, C.G. with 75.08%.
- ◆ BSc (2002) from S.P.C. College Nawapara-Rajim (Pt. R.S. Univ. Raipur, C.G.) with 75.6%.
- ◆ Higher Secondary School (1999) from Govt. Higher Secondary School, Nawapara-Rajim (M.P. Board, Bhopal) with 84.6%.
- ◆ High School (1997) from Govt. High School Nawapara-Rajim (M.P. Board, Bhopal) with 79%.

## ACHIEVEMENTS & AWARDS

- ◆ Awarded with **Chhattisgarh Young Scientist of Physics**, 2013.
- ◆ Qualified for **Joint Entrance Screening Test (JEST)**, 2006.
- ◆ Qualified for Lectureship in UGC-CSIR **National Eligibility Test (NET)**, 2005.
- ◆ University first rank in MSc Physics. Awarded with **Gold Medal**, 2004.
- ◆ University second rank in BSc (first rank in College, awarded with **Gold Medal**), 2002.
- ◆ School first rank in Higher Secondary. Awarded with **Silver Medal**, 1999.
- ◆ Awarded with **Gold Medal** on Gandhi Jayanti Convocation organized by an NGO for educational performance in rural area, 1999.
- ◆ **Visiting Associate** of Inter-University Centre for Astronomy and Astrophysics (**IUCAA**), Pune since August 1, 2017.
- ◆ **Coordinator** of IUCAA Centre for Astronomy Research and Development (**ICARD**) since April 2019.
- ◆ **Coordinator** of “Centre for Mega Projects in Multiwavelength Astronomy”, awarded with Rs. 14,00,000.00 (Sanction no. 2520/Grant Cell/2016, dated 01-12-2016).
- ◆ **Probing the Compact Stellar Objects: The X-ray Binaries**, The project got selected under Teachers Associateship for Research Excellence (TARE) program of Science and Engineering Research Board (SERB/ANRF), Department of Science and Technology, Government of India (2024 - 27, Reference No: TAR/2023/000115, Grant: 15,00,000 INR, Fellowship: 1,80,000 INR).
- ◆ Involved in preparation and presentation of DST-FIST proposal which was awarded Rs. 97,00,000.00 (Sanction no. SR/FST/PSI-189/November 2013).
- ◆ Has been working as a Coordinator and member of various committee formed by Pt. R. S. University, Raipur Administration.
- ◆ Life member of **Astronomical Society of India (ASI)** since 2019.
- ◆ Strong collaboration with leading astronomical research institutions, including the Indian Institute of Astrophysics (IIA) in Bengaluru, the Inter-University Centre for Astronomy and Astrophysics (IUCAA) in Pune, and the Aryabhata Research Institute of Observational Sciences (ARIES) in Nainital.

## RESEARCH EXPERIENCE

- ◆ Worked on PhD Thesis entitled “**Observational Studies of Type Ia Supernovae**”, under the supervision of Prof. D.K. Sahu, Indian Institute of Astrophysics, Bengaluru and co-supervision of Prof. S.K. Pandey, SoS in Physics and Astrophysics, Pt. R.S. University, Raipur, C.G. (2011-16).
- ◆ Worked as Junior Research Fellow (JRF) at ISRO Satellite Centre, Bengaluru on Research Project entitled “**Survey and study of rapidly oscillating Ap (roAp) stars in the Northern Hemisphere**” (2006-08).
- ◆ Having one and half year experience in **remote handling** and **Optical-NIR** observations using

2-meter **Himalayan Chandra Telescope** installed at an altitude of 4500 meter above mean sea level at Indian Astronomical Observatory (IAO), Hanle-Leh, and remotely operated by IIA, Bengaluru via a dedicated satellite link, (2005-06).

- ◆ Versatile in **CCD photometric and spectroscopic** data reduction and analysis using **IRAF** (Image Reduction and Analysis Facility) software package. Developed **IRAF** based efficient and time saving **cl-scripts** for automated photometric and spectroscopic data reduction.
- ◆ Familiar with the **Ultraviolet-Optical** data reduction of **Swift satellite**, **X-ray** data analysis of **AstroSat** and **NuStar**. Familiar in using various tools and command of **HeaSoft**.
- ◆ Performed analysis of **Supernovae** SN 2004A, SN 2004ab, SN 2005cf, SN 2005el, SN 2005ke, SN 2009ig, SN 2010kg, SN 2011aa, SN 2011dh, SN 2012dn, SN 2012cg, SN 2013bz, SN 2014ad, ASSASN16ex, and PSNJ0910+5003.
- ◆ Well acquainted in using **SSP3, SSP5A, Two channel, Three channel** fast Photometers and various **imaging- spectroscopic equipments** for astronomical studies.
- ◆ Observational experience of ~ 19 years in the field of astronomy and astrophysics. Worked with various class of telescopes installed all over the country i.e. 6-inch, 8-inch, 14-inch Telescopes at Pt R.S. University Raipur, 1.04-m, 1.3-m, 3.6-m Telescopes at ARIES Nainital, 2-m Himalayan Chandra Telescope at IAO Hanle-Leh, 1-m, 2-m Telescopes at Vainu Bappu Observatory Kavalur, 2-m IGO Telescope at IUCAA Pune.
- ◆ Post Graduate level Teaching Experience of 16 years. Along with teaching, actively involved in the research work in the field of Astronomy and Astrophysics and associated with a group of people working on Supernovae, Chemically Peculiar Stars, Variable stars, Compact X-ray Sources (X-ray Binaries), GRBs and Galaxies.

#### Ph.D. THESIS SUPERVISION

- ◆ Supervisor of Mr. Pravat Dangal (**awarded** in July 2024, worked on “Study of Compact Stellar Objects probing through their Radiative mechanism”), Ms. Shrutika Tiwari (**awarded** in September 2024, worked on “Understanding the Nature of Thermonuclear Supernovae through Observational Studies”), Mr. K.R. Sahu and Mr. Mulchand Kurre (working on Supernovae).
- ◆ Co-supervisor of Ms. Bharti Arora (**awarded** in July 2022, worked on “Study of the Massive O- and WR-stars and their Associated Winds” with Dr. J. C. Pandey, ARIES Nainital), and Mr. Ankur Ghosh (**awarded** in July 2023, worked on “Study of GRBs - on aspects of multi-wavelength emission, environment and host galaxies” with Dr. Amitesh Omar and Dr. Kuntal Misra, ARIES Nainital).

#### FELLOWSHIP

- ◆ **INSA Visiting Scientist Fellowship**, awarded by the Indian National Science Academy (INSA), New Delhi (2022 - 23).
- ◆ **Summer Research Teacher Fellowship**, awarded by the Indian Academy of Sciences during 16<sup>th</sup> June - 11<sup>th</sup> Aug, 2022.
- ◆ **UGC Teacher Fellowship**, awarded by the University Grant Commission, New Delhi during

16<sup>th</sup> July 2015 - 15<sup>th</sup> January 2016.

- ◆ **Summer Research Teacher Fellowship**, awarded by the Indian Academy of Sciences during 18<sup>th</sup> May - 14<sup>th</sup> July, 2015.
- ◆ **Chhattisgarh Young Scientist Fellowship**, awarded by the Chhattisgarh Council of Science and Technology, Raipur, C.G. during 6<sup>th</sup> May - 5<sup>th</sup> July, 2013.
- ◆ **INSA Visiting Scientist Fellowship**, awarded by the Indian National Science Academy (INSA), New Delhi during 02<sup>nd</sup> Sep- 6<sup>th</sup> Dec, 2013.

## COMPUTATIONAL SKILL

- ◆ Operating System- Linux, Windows
- ◆ Languages- FORTRAN, Python, HTML
- ◆ Packages- IRAF, HeaSoft
- ◆ Plotting Software- SM, Gnuplot, Excel, matplotlib, Origin
- ◆ Computer Administration at Astrophysics Lab, Computer Lab, and IUCAA-ICARD Resource Centre at SoS in Physics & Astrophysics, Pt. R.S. University, Raipur, C.G.

## RESEARCH COURSE ATTENDED

- ◆ Post Graduate Pre-PhD Research Courses (2007-08) at Indian Institute Science (IISc) Bengaluru, under Joint Astronomy Program (**JAP**).

## PUBLICATIONS

Papers : (International/ National Refereed Journal)

**Note :- B. P. Schmidt**, Co-author of paper no. 22 is **Nobel Prize Winner** in Physics in 2011.

1. **Weak secondary cyclotron line in eclipsing High Mass X-ray Binary Cen X-3**, Pravat Dangal, Ranjeev Misra, N. K. Chakradhari, Yashpal Bhulla, 2024, MNRAS, 527, 6981.
2. **Search for merger ejecta emission from late time radio observations of short GRBs using GMRT**, Ghosh Ankur, Vaishnava C. S., Resmi L., Misra Kuntal, Arun K. G., Omar Amitesh, Chakradhari N. K., 2024, MNRAS, 527, 8068.
3. **Type Ia supernovae SN 2013bz, PSN J0910+5003 and ASASSN-16ex: similar to 09dc-like?** Tiwari S., Chakradhari N. K., Sahu D. K., Anupama G.C., Kumar B., and Sahu K.R., 2023, MNRAS, 521, 5207.
4. **Can the violent merger of white dwarfs explain the slowest declining Type Ia supernova SN 2011aa?** Dutta Anirban, Anupama G C, Chakradhari N K, Sahu D K, 2022, ApJL, 938, 22.
5. **Modeling the late-time merger ejecta emission in short gamma ray bursts**, Ankur Ghosh, Kuntal Misra, S. V. Cherukuri, L. Resmi, K. G. Arun, Amitesh Omar, Dimple, N. K. Chakradhari, 2022, Journal of Astrophysics & Astronomy, 43, 66.
6. **Study of chemically peculiar stars - I. High-resolution spectroscopy and K2 photometry of Am stars in the region of M44**, Joshi Santosh, Trust Otto, Semenko E., Williams P. E., Lampens P., De Cat P., Vermeylen L., Holdsworth D. L., García R. A., Mathur S., Santos A. R. G., Mkrtichian D., Goswami A., Cuntz M., Yadav A. P., Sarkar M., Bhatt B. C.,

*Kahraman Aliçavuş F., Nhlapo M. D., Lund M. N., Goswami P. P., Savanov I., Jorissen A., Jurua E., Avvakumova E., Dmitrienko E. S., Chakradhari N. K., Das M. K., Chowdhury S., Abedigamba O. P., Yakunin I., Letarte B., Karinkuzhi D., 2022, MNRAS, 510, 5854.*

**7. Quest for the Upcoming Periastron Passage of an Episodic Dust Maker and Particle-accelerating Colliding-wind Binary: WR 125**, *Arora Bharti, Pandey J. C., De Becker Michaël, Pandey S. B., Chakradhari Nand K., Sharma Saurabh, Kumar Brijesh, 2021, AJ, 162, 257.*

**8. Optical and UV studies of type Ia supernovae SN 2009ig and SN 2012cg**, *Chakradhari N. K., Sahu D. K., Anupama G. C., 2019, MNRAS, 487, 1886.*

**9. Observational properties of a Type Ib supernova MASTER OT J120451.50+265946.6 in NGC 4080**, *Singh Mridweeka, Misra Kuntal, Sahu D. K., Dastidar Raya, Gangopadhyay Anjasha, Srivastav Shubham, Anupama G. C., Bose Subhash, Lipunov Vladimir, Chakradhari N. K., Kumar Brajesh, Kumar Brijesh, Pandey S. B., Gorbovskoy Evgeny, Balanutsa Pavel, 2019, MNRAS, 485, 5438.*

**10. Broad-line type Ic Supernova SN 2014ad**, *Sahu D. K., Anupama G. C., Chakradhari N. K., Srivastav S., Tanaka M., Meada K., Nomoto K., 2018, MNRAS, 475, 2591.*

**11. Exploring the optical behaviour of a type Iax supernova SN 2014dt**, *Singh Mridweeka, Mishra Kuntal, Sahu D. K., Dastidar Raya, Gangopadhyay Anjasha, Bose Subhash, Srivastav Shubham, Anupama G. C., Chakradhari N. K., Brajesh Kumar, Brijesh Kumar, Pandey S. B., 2018, MNRAS, 474, 2551.*

**12. Highly reddened type Ia supernova SN 2004ab: another case of anomalous extinction**, *Chakradhari N. K., Sahu D. K., Anupama G. C., 2018, MNRAS, 474, 2502.*

**13. The hot  $\gamma$  Doradus and Maia stars**, *Balona L. A., Engelbrecht C. A., Joshi Y. C., Joshi S., Sharma K., Semenko E., Pandey G., Chakradhari N. K., Mkrtichian David, Hema B. P., Nemec J. M., 2016, MNRAS, 460, 1318.*

**14. The Nainital-Cape Survey-IV : A search for pulsational variability in 108 chemically peculiar stars**, *Joshi S., Martinez P, Chowdhury S., Chakradhari N. K., Joshi Y. C., van Heerden P., Medupe T., Kumar Y. B., Kuhn R. B., 2016, A&A, 590A, 116.*

**15. Supernova SN 2012dn: A Spectroscopic clone of SN 2006gz**, *Chakradhari N. K., Sahu D. K., Srivastav S., Anupama G. C., 2014, MNRAS, 443, 1663.*

**16. Study of dust and ionized gas in early type galaxies**, *Kulkarni Samridhi, Sahu D. K., Chaware L. K., Chakradhari N. K., Pandey S. K., 2014, New Astronomy, 30, 51.*

**17. One year of monitoring of the Type IIb supernova SN 2011dh**, *Sahu D. K., Anupama G. C., Chakradhari N. K., 2013, MNRAS, 433, 2.*

**18. A spectroscopic analysis of the chemically peculiar star HD 207561**, *Joshi S., Semenko E., Martinez P., Sachkov M., Joshi Y. C., Seetha S., Chakradhari N. K., Mary D. L., Girish V., Ashoka B. N., 2012, MNRAS, 424, 2002.*

**19. Time-resolved photometric and spectroscopic analysis of the luminous Ap star HD103498**, *Joshi S., Ryabchikova T., Kochukhov O., Sachkov M., Tiwari S. K., Chakradhari N. K., Piskunov N., 2010, MNRAS, 401, 1299.*

**20. The Nainital-Cape Survey. III. A search for pulsational variability in chemically**

**peculiar stars**, Joshi S., Mary D. L., Chakradhari N. K., Tiwari S. K., Billaud C., 2009, A&A, 507, 1763.

21. **Photometric and spectroscopic evolution of type II-P supernova SN 2004A**, Gurugubelli Uday K., Sahu D. K., Anupama G. C., Chakradhari N. K., 2008, BASI, 36, 79.

22. **ESC observation of SN 2005cf I. Photometric Evolution of a Normal Type Ia Supernova**, Pastorello A., Taubenberger S., Elias-Rosa N., Mazzali P. A., Pignata G., Cappellaro E., Garavini G., Nobili S., Anupama G. C., Bayliss D. D. R., Benetti S., Bufano F., Chakradhari N. K., Kotak R., Goobar A., Navasardyan H., Patat F., Sahu D. K., Salvo M., **Schmidt B. P.**, Stanishev V., Turatto M., Hillebrandt W., 2007, MNRAS, 376, 1301-1316.

Papers : (International Conference Proceedings)

1. **Ground-based photometric survey to search for the pulsational variability in Bp, Ap, and Am stars**, Daniel Nhlapo, Santosh Joshi, Bruno Letarte, Nand Kumar Chakradhari, Sanjeev Kumar Tiwari, Presented at Second Belgo-Indian Network for Astronomy & Astrophysics (BINA-2) International Workshop held at Brussels, Belgium during 9-12 October 2018. Published in Bulletin de la Société Royale des Sciences de Liège, 2019, BSRSL, 88, 248 (ISSN : 0037-9565, E-ISSN : 1783-5720, DOI: 10.25518/0037-9565.8929).

2. **The Nainital Cape Survey Project : A Search for Pulsation in Chemically Peculiar Stars**, Chakradhari, N. K., Joshi S. Presented at First Belgo-Indian Network for Astronomy & Astrophysics (BINA) International workshop held at ARIES, Nainital during 15-18 Nov. 2016. Published in Bulletin de la Société Royale des Sciences de Liège, 2018, BSRSL, 87, 150 (ISSN : 0037-9565, E-ISSN : 1783-5720, DOI: 10.25518/0037-9565.7614).

3. **A Peculiar Subclass of Type Ia Supernovae a.k.a. Type Iax**, Mridweeka Singh, Kuntal Misra, Devendra Kumar Sahu, Raya Dastidar, Anjasha Gangopadhyay, Subhash Bose, Shubham Srivastav, Gadiyara Chakrapani Anupama, Nand Kumar Chakradhari, Brajesh Kumar, Brijesh Kumar & Shashi Bhushan Pandey. Presented at First Belgo-Indian Network for Astronomy & Astrophysics (BINA) International workshop held at ARIES, Nainital during 15-18 Nov. 2016. Published in Bulletin de la Société Royale des Sciences de Liège, 2018, BSRSL, 87, 340 (ISSN : 0037-9565, E-ISSN : 1783-5720).

4. **Multiwavelength study of radio loud early type galaxies from B2 Samplae**, Sheetal Kumar Sahu, L. K. Chaware, S. K. Pandey, M. B. Pandge, Samridhi Kulkarni, N. K. Chakradhari, Presented at IAU symposium S304 on Multiwavelength AGN Surveys and Studies held at Yerevan, Armenia during October 7-11, 2013. Published in Proc. of IAU Symp., Mickaelian & Sanders eds., 2014, IAUS, 304, 353.

5. **Optical studies of type IIB Supernova SN2001dh**, D. K. Sahu, G. C. Anupama, N. K. Chakradhari, IAU Symposium 296 on Supernova Environmental Impacts held at Raichak-on-Ganges, near Kolkata, India during January 7-11, 2013. Published in Proc. of IAU Symp., Ray & McCray eds., 2014, IAUS, 296, 338.

6. **Time-Resolved Photoelectric, Photometric and High-Resolution Spectroscopic Data Analysis of a Luminous Ap Star HD 103498**, Joshi S., Joshi Y. C., Ezhkova O. V., Sachkov M.,

*Ryabchikova T., Kochukhov O., Chakradhari N. K., Tiwari, S. K.*, International Conf. held at SAO, Russian AS during 27 August–01 September, 2011, Published in Magnetic Stars Conf. Proc., 2011, 330.

**7. Search for P-mode Pulsations in Late Type Chemically Peculiar Stars**, *Joshi S., Chakradhari N. K.*, International Conference AOGS 2010, held at Hyderabad during July 5-9, 2010, Published in Advances in Geosciences, 2011, World Sc. Company, 27, 219.

Circulars:

**1. Classification of AT 2016c in NGC 5247 as a type II supernova**, *D. K. Sahu, G. C. Anupama, S. Srivastav, N. K. Chakradhari*, 2016, ATEL, 8514.

**2. Spectroscopic classification of PSN J11430127 + 2357016 in UGC 6681 and PSN J16412717 + 5747050 in NGC 6211**, *S. Srivastav, N. K. Chakradhari, D. K. Sahu, G. C. Anupama*, 2013, ATEL # 5105.

**3. GRB060124 Optical Observations**, *B. C. Bhatt, D. K. Sahu, Srividya S., N. K. Chakradhari*, 2006, GCN45971.

**4. GRB050121 Optical Observations**, *D. K. Sahu, G. Pandey, P. Bama, N. K. Chakradhari*, 2005, GCN 4294 .

Posters: (International/ National Conferences)

**1. Normal Type Ia Supernova SN 2010ju**, *Shrutika Tiwari, N.K. Chakradhari, K.R. Sahu, Mulchand Kurre, D.K. Sahu, G.C. Anupama*, presented at 42<sup>nd</sup> annual Meeting of the Astronomical Society of India (ASI 2024), hosted jointly by IISc, ISRO and JNP, Bengaluru, 31 Jan to 04 Feb 2024.

**2. Optical Studies of Type Ic Supernova SN 2020akf in galaxy KUG 0925+387B**, *K.R. Sahu, Yogita Patel, Mulchand Kurre, Shrutika Tiwari, N.K. Chakradhari, G.C. Anupama, D.K. Sahu*, presented at 42<sup>nd</sup> annual Meeting of the Astronomical Society of India (ASI 2024), hosted jointly by IISc, ISRO and JNP, Bengaluru, 31 Jan to 04 Feb 2024.

**3. Photometric and Spectroscopic Studies of Supernova SN 2021mxx**, *Mulchand Kurre, D.K. Sahu, G.C. Anupama, Yogita Patel, N.K. Chakradhari*, presented at 42<sup>nd</sup> annual Meeting of the Astronomical Society of India (ASI 2024), hosted jointly by IISc, ISRO and JNP, Bengaluru, 31 Jan to 04 Feb 2024.

**4. UV-Optical studies of Super-Chandrasekhar/09dc-like type Ia Supernovae**, *Shrutika Tiwari, N. K. Chakradhari, D.K. Sahu, G. C. Anupama, B. Kumar, K. R. Sahu*, presented at 2<sup>nd</sup> National Conference on Signal Processing, Sustainable Energy Materials and Astronomy & Astrophysics (NSSEMA 2023), held at SoS in Physics and Astrophysics, Pt. R.S. University Raipur, during 16-18th March 2023, (awarded with second prize).

**5. Time Resolved Spectral Analysis of an eclipsing High Mass X-ray Binary 4U 1118-60 over a full binary orbit with ASTROSAT**, *Pravat Dangal, Nand Kumar Chakradhari and Ranjeev Misra*, Presented at NSSEMA 2023, held at SoS in Physics and Astrophysics, Pt.

R.S. University Raipur, during 16-18th March 2023.

6. **Luminous type Ia Supernova SN 2013bz**, *Shrutika Tiwari, N. K. Chakradhari, D.K. Sahu, G. C. Anupama, K. R. Sahu*. Presented at 41<sup>st</sup> Meeting of the ASI, held at IIT Indore during 1-5 March 2023.
7. **Photometric and spectroscopic studies of type Ia supernova SN 2013bz**, *Shrutika Tiwari, N. K. Chakradhari, D. K. Sahu, G. C. Anupama, K. R. Sahu*. Presented at Young Astronomers' Meet 2022, ARIES Nainital, 9-13 November 2022.
8. **Template fitting on type Ia supernova light curves**, *Shrutika Tiwari, N. K. Chakradhari, D. K. Sahu, G. C. Anupama, K. R. Sahu*. Presented at International Workshop on Science and Technology in Astronomy Research (STAR 2022), SoS in Physics and Astrophysics, Pt. R.S. University Raipur, 15 -18 October 2022.
9. **Can the violent mergers of white dwarfs explain the slowest decline Type Ia supernova SN 2011aa**, *Anirban Dutta, N K Chakradhari, G C Anupama, D K Sahu*, international workshop on Time Domain and Multi-Messenger Astrophysics (TDAMM), held by the NASA Physics of the Cosmos Program, 22-24 August 2022, Annapolis, MD USA.
10. **PSN J0910+5003 : A type Ia Supernova explosion similar to Super Chandrasekhar event**, *Shrutika Tiwari, N. K. Chakradhari, D. K. Sahu, G. C. Anupama*, presented at 40th annual Meeting of the Astronomical Society of India (ASI 2022), IIT Roorkee, 25-29 March 2022.
11. **ASASSN-16ex : An explosion similar to super-Chandrasekhar type Ia Supernovae**, *Shrutika Tiwari, N. K. Chakradhari, D.K. Sahu, Brajesh Kumar, Avinash Singh and G. C. Anupama*, presented at 38th annual Meeting of the Astronomical Society of India (ASI 2020) at IISER Tirupati during 13-17 February 2020.
12. **Multiband study of a lenticular galaxy NGC 1266**, *Sheetal Kumar Sahu, L. K. Chaware, N. K. Chakradhari, Mahendra Verma, Amit Tamrakar, S. K. Pandey*, presented at National Conference on Signal Processing, Sustainable Energy Materials, and Astronomy & Astrophysics, held at SoS in Physics & Astrophysics, Pt. R.S. University, Raipur during 28-30 March, 2017 (**Awarded with 2<sup>nd</sup> prize**).
13. **Multicolor surface photometry of a sample of low luminosity radio galaxies**, *Sheetal Kumar Sahu, S.K. Pandey, N.K. Chakradhari, M. B. Pandge*, presented at IAU XXIX General Assembly, held at Honolulu, Hawaii during 3-14 August, 2015.
14. **Spectral studies of some E/SO galaxies using the SDSS DR7 data**, *Amit Kumar Tamrakar, L. K. Chaware, S. K. Pandey, N. K. Chakradhari, Sheetal Sahu*, presented at 30<sup>th</sup> Scientific Meeting of Astronomical Society of India (ASI-2013) held at IISER-IIST-IRC, Kerla during February 20-22, 2013.
15. **Multiwavelength investigation of some dusty E/SO galaxies**, *Samridhi Kulkarni, L. K. Chaware, N. K. Chakradhari, D. K. Sahu, S. K. Pandey*, 29<sup>th</sup> Scientific Meeting of Astronomical Society of India (ASI-2011) held at SoS in Physics & Astrophysics, Pt. RS



University, Raipur during February 23-25, 2011. **(Awarded with 1<sup>st</sup> prize).**

16. **Study of Dust properties in Early type Galaxies**, Samridhi Kulkarni, D. K. Sahu, Laxmikant Chaware, N. K. Chakradhari, S. K. Pandey, International Conference : Wittfest : Origins and evolution of Dust, University of Toledo, Ohio, USA during October 10-12, 2010.
17. **Multiband Photometric Study of Dusty Early Type Galaxies**, Samridhi Kulkarni, L. K. Chaware, N. K. Chakradhari, D. K. Sahu, S. K. Pandey, 16<sup>th</sup> National Space Science Symposium 2010 held at Saurashtra University, Rajkot during 24-27, February, 2010. **(Awarded with 3<sup>rd</sup> prize).**
18. **Study of dust and ionized gas in Early type galaxies**, Samridhi Kulkarni, D.K. Sahu, Laxmikant Chaware, N. K. Chakradhari, S. K. Pandey, 29<sup>th</sup> Scientific Meeting of Astronomical Society of India (ASI-2009) held at Bengaluru during February 18-20, 2009.

#### **INVITED LECTURES / DISCUSSIONS in Television – News Channel**

1. Given an invited talk on “Space Science & Astronomy” in a One Day Workshop on National Space Day at Govt Niranjana Keshawani College, Kota, Bilaspur, on 30 August 2024.
2. Given an invited talk on “Understanding our Space” at Vivekananda Global University Jaipur on the occasion of National Space Day 2024, 23 Aug 2024.
3. Invited as an expert for a discussion on “India’s Space Saga” on the eve of National Space Day 2024, by Doordarshan Raipur, broadcasted live on 22 August 2024.  
You tube link: [https://youtu.be/FrGimNxIzDI?si=NNkhyGDhXV5d\\_kzh](https://youtu.be/FrGimNxIzDI?si=NNkhyGDhXV5d_kzh)
4. Given an invited lecture entitled “Space & Astronomy” at Govt. P.G. Science College, Raipur, 24 Feb 2024.
5. Given an invited lecture entitled “Indigenous Technologies for Viksit Bharat: Scope in Astronomy & Space Sciences” at BCS Govt PG College, Dhamtari, 23 Feb 2024.
6. Given an invited lecture entitled “The sky above Dhanora: An exploration beyond the horizon” at Government Higher Secondary School, Dhanora, Durg, 25 November 2023.
7. Given an invited lecture entitled “India on Moon” at Rungta College, Raipur, 27 September 2023.
8. Given an invited lecture on “Chandrayaan 3” at Swami Atmanand Government English Medium College, Dhanora, Durg, 04 Sep 2023.
9. Given an invited lecture on “Career Guidance in Physics & Astrophysics” at Satyanarayan Shiksha Vikash Samiti, Kansari Samaj Nawapara Rajim, on the occasion of felicitations of meritorious students, 28 May 2023.
10. Given an invited lecture entitled “The amazing sky”, at Govt. Rajiv Lochan P.G. College, Rajim as a part of National Science Day Celebration on 27 Feb 2023.
11. Given an invited lecture entitled “The world of Stars”, at Govt. D.B. Girls P.G. College, Raipur as a part of National Science Day Celebration on 23 Feb 2023.
12. Given an invited lecture entitled “Global Science for Global Wellbeing - The Science of

- Stars”, at Seth Phool Chand Smiriti College, Nawapara-Rajim as a part of National Science Day Celebration on 17 Feb 2023.
13. Given an invited lecture entitled “Understanding the Sky” in the one day workshop “Training in Astronomy Research and Education (TARE-2022)”, Department of Physics, Govt. College Dharsiwa, Raipur, 28 November 2022.
  14. Given a Lecture “The legacy of Physics & Astrophysics, PRSU Raipur” in the International workshop on “Science & Technology in Astronomy Research (STAR 2022)”, SoS in Physics and Astrophysics, Pt. Ravishankar Shukla University, Raipur, 15-18 October 2022.
  15. Given an invited lecture entitled “Explosion in the cosmos : Supernovae” at Physics Department, Kalinga University, Raipur on 02 May 2022.
  16. Given an invited lecture entitled “The story of stars” as a part of National Science Day Celebration at Govt college Kurud on 28 February 2022.
  17. Given an invited lecture entitled “Space Science and Technology for a sustainable future” as a part of National Science Day Celebration at Govt. College Dharsiwa, Raipur on 26 February 2022.
  18. Given an invited lecture entitled “India in Space Science” as a part of National Science Day Celebration at Govt. Gundadhur College Kondagaon on 05 February 2022.
  19. Given an invited lecture entitled “Opportunities and Challenges in Physics” at Govt College Rajim on 21 January 2022.
  20. Given a guest lecture on “Sun, Season and Sky” at Kalinga University, Raipur on 11 December 2021.
  21. Given an invited talk entitled “Astrophysics - The Wonders of Galaxies” at Vinayakrao Patil Mahavidyalaya, Vijapur, Aurangabad on 14 September 2021.
  22. Given a talk entitled “Motion of the Sun” in Training workshop on Zero Shadow Day, organized by Chhattisgarh Vigyan Sabha on 15 May 2021.
  23. Given a talk “The Experimental Component of Astronomy Teaching at Pt. R.S. University Raipur” in ASI 2021 during 18- 23 February 2021.
  24. Given an invited talk entitled “Constellation, Time and Season in Astrophysics” at Dhamangaon College, Amravati, M.S. on 23 December 2020.
  25. Given an invited talk entitled “The night sky : what we have to observe” at Two Days workshop organized by Chhattisgarh Vigyan Sabha, Raipur during 19-20 December 2020, for the preparation of Jupiter Saturn Conjunction event.
  26. Given an invited talk entitled “Time, Seasons, and Astrophysics”, organized by Chhattisgarh Vigyan Sabha on 12 December 2020.
  27. Given an invited talk on “Observational studies of Thermonuclear supernovae using HCT” in a two days conference on “20 years of Himalayan Chandra Telescope” organized by IIA, Bengaluru during 29-30 September 2020.
  28. Given an invited lecture entitled “Looking into a star’s journey” in a National Webinar on “Dark energy and Dark Matter : Mysteries of the Universe” organized by Seth Phool Chand Agrawal College Nawapara, Rajim on 23 July 2020.

29. Given an invited lecture entitled “Understanding the life of a Star” in a National Webinar organized by the Department of Physics, Arya Vidyapeeth College, Guwahati on 22 July 2020.
30. Given an invited talk on “A glimpse of thermonuclear Supernovae” in 38th annual Meeting of the Astronomical Society of India (ASI 2020) at IISER Tirupati during 13-17 February 2020.
31. Given a talk on “Learning from the experiences at Pt. RS University, Raipur for spreading astronomy teaching” in 38th annual Meeting of the Astronomical Society of India (ASI 2020) at IISER Tirupati during 13-17 February 2020.
32. Given an invited talk on “Dr. Meghnad Saha and His Research” in a National Seminar on “Dr. Meghnad Saha’s life and work” held at SCERT Raipur on 16<sup>th</sup> November 2019.
33. Given an invited talk on “Supernovae Explosions” in International seminar on “Correlative Advancement on Analytical and Applied Physics-2019” at Physics Department, St. Josephs’ College, North Point, Darjeeling during 21-22 October 2019.
34. Given an invited talk entitled “Mathematics and Astronomy” at SoS Mathematics, Pt RSU, Raipur, on 26 September 2019.
35. Given an invited talk entitled “India in Space” at Regional Science Centre, Raipur on 25 September 2019.
36. Invited as an expert for a discussion on “Space missions of ISRO and Chandrayaan-2” in a TV programme broadcasted live by Doordarshan Chhattisgarh channel on 08 September 2019. <https://youtu.be/vHrVtQG0T8o>
37. Invited as an expert for a discussion on “Chandrayaan-2” in a TV programme broadcasted live by Zee News MP-Chhattisgarh channel on 07 September 2019, evening.
38. Invited as an expert for a discussion on “Soft landing of Vikram Lander of Chandrayaan-2” in a TV programme broadcasted live by Zee News MP-Chhattisgarh channel on 07 September 2019, early morning.
39. Invited as an expert for a discussion on “Vikram Lander, Prgyan Rover and Chandrayaan-2” in a TV programme broadcasted live by IBC 24 hour TV channel on on 06 September 2019. <https://youtu.be/FLS0QfVu5fo>
40. Invited as an expert for a discussion on “Launch of Chandrayaan-2” in a TV programme broadcasted live by Zee News MP Chhattisgarh TV channel on 22 July 2019.
41. Given a lecture on “Communicating Science for all” on 28 Feb 2019 at Govt. College Kurud, Dhamatari on the occasion of National Science Day.
42. Delivered a talk on Basics of Astronomical Observations along with Sky watching Program in evening on 18 September 2018 at IIT, Bhilai.
43. Given a lecture on Coordinates and Constellation in SITARE Workshop, 17-19 Aug 2018, Pt. R.S. University, Raipur.
44. Invited as an expert for a discussion on “Lunar eclipse of 27 July 2018” in a TV programme broadcasted by IBC 24hour TV channel on 27 July 2018. <https://youtu.be/jnqHDg9S2Pg>

45. Given a Lecture on Astronomy & Astrophysics: Telescopes and Stellar Evolution at Kendriya Vidyalay-2, Raipur on 11 June 2018 .
46. Given a lecture on Dynamic Earth at Seth P.C. College Nawapara Rajim on 28 February 2018.
47. Given a lecture on Research and Career Opportunities at Govt Science College Raipur on 23 February 2018
48. Given a lecture on Astronomy & Astrophysics, and organized sky watching program at Govt School Rakhi, Naya Raipur on 26 October, 2017.
49. Given talk on SUN and Season on 15 July 2017 at SPC College Nawapara Rajim.
50. Delivered a lecture on Particle Physics at Bhilai Mahila College, Bhilai on 12 January, 2017.
51. Worked as a resource person in Science Popularization workshop for Tribal students. Delivered lecture and arranged sky watching programme at Govt. H.S. School, Singhiya, Dist. Korba during 15-16, October 2016.
52. Delivered a talk on “Maths, Science and Astrophysics (Ganit, Vigyan aur Khagolvigyan)” at Chhattisgarh Science Center, Raipur on 20 September 2016.
53. Delivered an invited lecture on “Importance of mathematics in Astronomy & Astrophysics” at S.P.C. College Nawapara, Rajim on 15 January 2016.
54. Delivered an invited lecture on Study of stars using telescopes as a part of celebration of “Astronomy Day” at Chhattisgarh Science Center, Raipur on 25<sup>th</sup> April 2015.
55. Delivered an Invited lecture on Astronomy & Astrophysics: Opportunities and Challenges at Govt. College Balod on 15<sup>th</sup> Jan 2015.
56. Delivered an Invited lecture on Opportunities and Challenges in Physics & Astrophysics at Bhilai Mahila Mahavidyalaya, Sector-9, Bhilai on 16<sup>th</sup> Jan 2014.
57. Delivered an Invited lecture on “Career in Physics & Astrophysics”, at Govt. J.R. Dani Girls School, Raipur on 30<sup>th</sup> March 2013.
58. Delivered an Invited lecture on the “How to Prepare for UGC-CSIR-NET” examination on 06 February, 2012 at Digvijay College Rajnandgaon.
59. Delivered an Invited lecture on “Telescopes & Multiwavelength Universe” in Teachers Training Programme at SCERT, Raipur, C.G. on 22 April, 2010.
60. Invited as an expert for a discussion on “Solar Eclipse of 15 January 2010” in a TV programme broadcasted by *Zee-Chhattisgarh 24hour* TV channel.
61. Invited as an expert for a discussion on “The End of the World on 21 Dec. 2012: a misconception among the common people” in a TV programme broadcasted by *Zee-Chhattisgarh 24hour* TV channel in November 2010.
62. Invited as an expert for a discussion on “Solar Eclipse of 22 July 2009” in a TV programme broadcasted by *Zee-Chhattisgarh 24hour* TV channel.
63. Delivered an Invited lecture on “The longest total solar eclipse of the 21<sup>st</sup> century: 22 July 2009” at the State Council of Education, Research & Training (SCERT), Raipur, C.G.

## **SKY WATCHING / OUTREACH PROGRAMME**

Regularly organize Planetarium Show, sky watching programme, telescope demonstration and astronomical lectures at various places for school/ college students, teachers and public.

## **PERSONAL PROFILE**

- ◆ Father's name : Late Shri Ram Lal Chakradhari
- ◆ Date of Birth : September 13, 1981
- ◆ Sex : Male
- ◆ Marital Status : Married (Wife: Smt. Laxmi Chakradhari, Son: Yash, Suyash)
- ◆ Nationality : Indian
- ◆ Languages Known : English, Hindi
- ◆ Permanent Address : Nand Kumar Chakradhari  
Village - Koliyari (via Rajim)  
Post Office - Champaran  
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